ELECTRONICS AND COMMUNICATIONS IN JAPAN

Part 1: Communications

VOLUME 69

CONTENTS FOR 1986

NUMBER 1

Page

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Takuro Kida and Tohru Kuroda: Relations between the Possibility of Restoration of Band-pass-Type Band-Limited Waves by Interpolation and Arrangement of Sampling Points . . . 1
Shigetaka Takagi and Nobuo Fujii: Simulation of Impedance Scaled LCR Filters with Voltage Followers . . . 11
Takashi Nakamura, Masahito Kurihara, Ikuo Kaji, and Tadaaki Yoneyama: Markovian Model and Analysis of a PRT 2-Berth Station . . . 19
Masatoshi Sakawa and Yuji Nango: Interactive Decision-Making for Multiobjective Nonlinear Programming Problems Using Fuzzy Satisficing Regions . . . 28
Takuro Kida and Yutaka Fukuda: A Method of Time-Domain Approximation Using the Transfer Function Whose Attenuation Poles are Restricted on the Imaginary Axis . . . 37
Masatoshi Sakawa: A Solution Concept in a Cooperative n-Person Game Based on the Complaint Differences and Its Application . . . 47
Satoshi Ichikawa and Yukio Shyakuda: Steady-State Analysis of Oscillatory Circuits with Harmonic Components by Volterra Series . . . 56

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Koichi Ito and Hiroshi Kitajima: A Practical Design of Circularly Polarized Printed Array Antenna Composed of Strip Dipoles and Slots . . . 65
Toyokazu Uda and Tsuneo Saito: Picture Coding by an Adaptive Multistage Vector Quantization . . . 75
Takaaki Hasegawa, Masao Makagawa, and Kunihiko Wakabayashi: Tracking Performance of Improved Delay-Lock Loop . . . 85
Izumi Sankawa, Toshiaki Satake, Norio Kashima, and Shinji Nagasawa: Methods for Reducing the Fresnel Reflection in an Optical-Fiber Connector with Index Matching Material 94
Hiroshi Ishikawa, Yasuharu Kosuge, and Noriharu Miyaho: A Study on Hybrid Switch Architecture Using Hierarchical Memory System . . . 103
Yukinari Hayashi, Kazuya Hayata, Masanori Koshiba, and Michio Suzuki: Double-Thin-Film Waveguides for Acoustic Surface Waves . . . 112

ELECTRONICS AND COMMUNICATIONS IN JAPAN

Part 1: Communications

VOLUME 69

CONTENTS FOR 1986

NUMBER 1

Page

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Takuro Kida and Tohru Kuroda: Relations between the Possibility of Restoration of Band-pass-Type Band-Limited Waves by Interpolation and Arrangement of Sampling Points . . . 1
Shigetaka Takagi and Nobuo Fujii: Simulation of Impedance Scaled LCR Filters with Voltage Followers . . . 11
Takashi Nakamura, Masahito Kurihara, Ikuo Kaji, and Tadaaki Yoneyama: Markovian Model and Analysis of a PRT 2-Berth Station . . . 19
Masatoshi Sakawa and Yuji Nango: Interactive Decision-Making for Multiobjective Nonlinear Programming Problems Using Fuzzy Satisficing Regions . . . 28
Takuro Kida and Yutaka Fukuda: A Method of Time-Domain Approximation Using the Transfer Function Whose Attenuation Poles are Restricted on the Imaginary Axis . . . 37
Masatoshi Sakawa: A Solution Concept in a Cooperative n-Person Game Based on the Complaint Differences and Its Application . . . 47
Satoshi Ichikawa and Yukio Shyakuda: Steady-State Analysis of Oscillatory Circuits with Harmonic Components by Volterra Series . . . 56

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Koichi Ito and Hiroshi Kitajima: A Practical Design of Circularly Polarized Printed Array Antenna Composed of Strip Dipoles and Slots . . . 65
Toyokazu Uda and Tsuneo Saito: Picture Coding by an Adaptive Multistage Vector Quantization . . . 75
Takaaki Hasegawa, Masao Makagawa, and Kunihiko Wakabayashi: Tracking Performance of Improved Delay-Lock Loop . . . 85
Izumi Sankawa, Toshiaki Satake, Norio Kashima, and Shinji Nagasawa: Methods for Reducing the Fresnel Reflection in an Optical-Fiber Connector with Index Matching Material 94
Hiroshi Ishikawa, Yasuharu Kosuge, and Noriharu Miyaho: A Study on Hybrid Switch Architecture Using Hierarchical Memory System . . . 103
Yukinari Hayashi, Kazuya Hayata, Masanori Koshiba, and Michio Suzuki: Double-Thin-Film Waveguides for Acoustic Surface Waves . . . 112

NUMBER 2

Page

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Takashi Nagano: An Information Processing Function Peculiar to Peripheral Vision 1
Toshihiko Okada, Tutomu Tuwaki, and Shingo Tomita: Design of a Nonlinear Feature Extractor Using a Clustering 9
Naotoshi Osaka and Kazuhiko Kakehi: Objective Evaluation Model of Telephone Transmission Performance for Fundamental Transmission Factors 18
Kohshi Okumura, Akira Kishima, and Setsuo Tokoro: A Method for Computing Electrical Transients of Transmission Lines by Numerical Laplace Transform 28
Kazuya Hayata, Masanori Koshiba, and Michio Suzuki: A Method for Improving the Accuracy of Finite-Element Solutions Using the Extrapolation Method 38
Yoshihiko Suzuki: A Qualitative Investigation of Time-Invariant Nonlinear Networks. Global State Equation Existence Criteria 48
Satoshi Ichikawa: Analysis of Transmission-Lines with Distributed Sources 57

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Yuji Inoue, Yasuyuki Okumura, and Kazuhiro Hayashi: Performance Analysis of Passive Bus User Network Interface with Multiplexed Channels and Its Transmission Characteristics 66
Shuichi Sumita: Analysis of Common Memory Access Contention with Nonpreemptive Priority Discipline 76
Haruo Akimaru, Tatsuhiko Ikeda, and Haruhisa Takahashi: Optimum Design of Alternative Routing Systems with Partial Overflow Scheme 85
Hisayoshi Inamori and Akira Toda: Performance Evaluation of a Multi-Microprocessor Simulator for Communications Networks 92
Ikuo Ishii and Masayuki Itoh: Adaptive Delta Modulation Using Slope Overload Detection Method 102
Yasuhiko Niiro, Makoto Nunokawa, Yoshihiro Ejiri, Hitoshi Yamamoto, and Yoshihiko Yamazaki: Design and Test Results of a Deep Sea Optical Fiber Submarine Cable . . . 111

NUMBER 3

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Takuro Kida: On Approximation of Low-Pass Type Band-Limited Waves by Interpolation . . . 1
Hirohito Suda, Takahiro Hosokawa and Hideki Imai: Concealment Methods Based on Kalman Filter 10
Toshiaki Ejima and Masayuki Kimura: Feature Extraction by Uniform Structure Threshold Logic Network 18
Hiroshi Matsumoto, Masao Nakagawa, and Masahide Yoneyama: Spoken Word Recognition of Independent Speakers Using Local-Peak-Weighted Average Dictionary 27
Naoki Mikami and Ryoji Ohba: Estimation of Poles and Zeros of Voiced Speech Using Group Delay Characteristics Derived from Spectral Envelopes 38
Yoshitaka Morikawa, Hiroshi Hamada and Nobumoto Yamane: A Fast Algorithm for the Cosine Transform Based on Successive Order Reduction of the Chebyshev Polynomial . . . 45
Masakiyo Suzuki, Masatoshi Suzuki, Nobuhiro Miki and Nobuo Nagai: Wave Digital Filters Based on Extracting Two-Wire Lines 55
Tatsuo Yamabuchi and Yukio Kagawa: Finite Element Approach to Unbounded Poisson and Helmholtz Problems Using Hybrid-Type Infinite Element 65

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Hiroshi Yasukawa: Multipurpose Equipment Practice for Communication Office Terminals and Its Cooling Characteristics 75
Yukiji Yamauchi, Masashi Sato, Norihiko Morinaga and Toshihiko Namekawa: Improvement of Multiple Access Capability in M-ary-FSK/Direct-Sequence SSMA 86
Tokumichi Murakami, Atsushi Itoh and Kohtaro Asai: Dynamic Multistage Vector Quantization of Images 93
Michiko Kuroda: Transmission Characteristics of Polarization-Maintaining Optical Fiber with Three-Lower Elliptical Cross Section 102
Zenichi Yamamoto and Tamiya Nomura: Performance of DLL for PN Sequences with Bit Errors 111

NUMBER 4

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Shu-ichi Adachi and Akira Sano: Recursive Identification Algorithm Based on Gradient Method with Application to Adaptive Bit Detector 1
Kazumi Horiguchi and Nozomu Hamada: System Theoretical Consideration on N-Point Padé Approximation . . . . .
Hirofumi Kawashima: A Study of Temperature Characteristics for Rectangular GT-Cut Quartz Crystal Resonators 21
Kunio Fukunaga, Shoichiro Yamada, and Tamotsu Kasai: A Placement of Circuit Modules . . 29
Atsushi Watanabe: The Volterra Series Expansion of Functionals Defined on the Finite-Dimensional Vector Space and Its Application to Saving of Computational Effort for Volterra Kernels 37
Koichi Mizutani and Kohji Toda: Analysis of Lamb Wave Propagation Characteristics in Rotated Y-Cut X-Propagation $LiNbO_3$ Plates 47

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Masao Hata, Norihiko Morinaga, and Toshihiko Namekawa: A Consideration on Optimum Direct Detection Optical Communication Receiver 56
Hideo Kuroda, Naoki Mukawa, and Hideo Hashimoto: An Interframe Coding System Using Motion-Compensation Prediction and Uncovered Background Prediction 65
Tsuneki Yamasaki, Takashi Hinata, and Toshio Hosono: Electromagnetic-Field Analysis of Planar Gratings with Periodic Distribution of Dielectric Constant 75
Atsushi Murase and Kenji Imamura: Location of Mobile Subscriber Station on Land Mobile Radio with MSSC 85
Nobuo Takahashi, Norihiko Morinaga, and Toshihiko Namekawa: Effects of Random Multiplication Gain of Photodetectors on Signal-to-Noise Ratios and Error Rates of Noise-Like Optical Signal 94
Hideo Yamanaka: Dielectric Measurements by H-Plane Dielectric Loaded Cavity with Three Layers 103
Yoshiaki Iwakuma, Kuninobu Tanno, and Tadao Nakamura: Optimum Capacity-Flow Assignment Problems with Respect to Fairness in Loop Networks 111

NUMBER 5

Page

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Kaoru Arakawa, Hiroshi Harashima and Hiroshi Miyakawa: ε-Kalman Filter—A Method of Signal Estimation Considering Sudden Changes of Signals 1
Yukio Ishibashi: An LC Simulation by Active RC Low-Pass Filter with Reduced Number of Operational Amplifiers 7
Takashi Itoh and Chihiro Kasai: Effect of Sound Field on Attenuation Coefficient Measurement and Its Correlation 17
Toshinari Suematsu: New Models of Compound Channels and Their Modeling Methods . . . 25
Kazunori Sugahara: Linear Programming Design of IIR Digital Phase Networks 32
Yoshihiro Tanada: General Solution for Orthogonal Periodic Real-Number Sequences . . 40
Etsuro Hayahara and Ichi Takumi: Synthesis of Multifeedback Active Filters Based on the Simulation of LC Filters 49

PART B

Shigeru Kozono and Masayuki Sakamoto: Measurement of Cochannel Interference for Mobile Communication Systems 58
Shoichiro Yamasaki, Masao Nakagawa and Toshio Tsunogae: New Dual Digital Phase-Locked Loop 67
Hiroshi Yoshikawa, Sadao Takano, Takashi Hinata and Toshio Hosono: Analysis of Polarization-Maintaining Optical Fibers with Crescentlike Hollow Pits Around a Circular Core 75
Tsukasa Yoneyama, Futoshi Kuroki and Shigeo Nishida: Experimental Design of Multimeter-Wave Nonradiative Dielectric Waveguide Filters 83
Tetsuro Endo and Kenzo Tada: Analysis of the Pull-In Range of Phase-Locked Loops by the Galerkin Procedure 90
Takashi Nakamura, Toshikazu Sekine and Senji Yokokawa: An Analysis of Meandering Lines 99
Kiyoshi Fukui, Shigeji Nogi and Ming Wang: Parallel-Running of Two Ladder-Type Microwave Multiple-Device Oscillators 107
Kazuaki Takao and Toshio Ishizaki: Constraints of the Output-Power-Minimization Adaptive Array for a Broadbanded Desired Signal 117

NUMBER 6

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Naohiko Inaba, Toshimichi Saito and Shinsaku Mori: Chaotic Phenomena in an Oscillator Controlled by DC Current Pulse 1
Toshio Hosono: Numerical Algorithm for Taylor Series Expansion 10
Masayuki Kawamata, Etsuo Kawada and Tatsuo Higuchi: Analysis of Roundoff Noise in Separable-Denominator Two-Dimensional Digital Filters 19
Rokuya Ishii and Masafumi Kato: Effect of a Limit Cycle on an Output Signal 28
Masakazu Inoue: A Method Analyzing the Bifurcation of Almost-Periodic Oscillation and Generation of Chaos in a Parametric Excitation Circuit 36

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Koichi Sano and Ryuichi Watanabe: A Design of Optical Wavelength-Division-Multiplexing Transmission Systems 42

Page

Takahiro Saitoh, Takashi Komatsu, Hiroshi Harashima and Hiroshi Miyakawa: Information Preserving Transmission Systems of Continuous-Tone Picture Signals for Picture Data Base 54
Masaharu Ohashi, Ken-ichi Kitayama and Shigeyuki Seikai: Mode Field Radius Measurements in Single-Mode Fibers by NFP Technique 63
Shozo Tokinaga: A Traffic Control Method by Adaptive Reservation Scheme Using Subchannel on Bus-Type Local Networks for Integrated Voice and Data 72
Kazuhiko Ogusu: Strip Line-Type Microwave Modulator Using Photoconductivity 79
Kunihiko Okamoto: A Study of Electro-Magnetic Field Around Delay Line Having Various Construction of Outer Conductor 88
Masafumi Hagiwara and Masao Nakagawa: DPS-Type First-Order Digital Phase-Locked Loop Using Linear Phase Detector 99
Hiroyuki Umeda, Hisao Hayashi, Nobuo Kitagawa and Yoshiaki Shiraga: Injection Locking of a Double-Mode Oscillator with Fundamental and Third Harmonic Resonators . . 108
Sachihiro Toyoda: Waveguide Type Power Combining Amplifiers 118

NUMBER 7

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Kohei Nomoto, Hideo Nojima, and Chikara Sato: Adaptive Filtering with Input Estimation — A Tracking Filter with Input Estimation 1
Toshinari Suematsu and Hideki Imai: Methods for Evaluating Error Correcting Codes Based on a Compound Channel Model 10
Yasuo Nomura, Takaharu Ai, and Keiji Fukuda: Estimation Method of Direct-Radiator Loudspeaker System Parameters in Low-Frequency Range by Nonlinear Optimization Technique 18
Masanori Koshiba, Toshio Katano, and Michio Suzuki: Finite-Element Solution of Three-Dimensional Electromagnetic Eigenvalue Problems 28
Yoshifumi Sekine, Masatoshi Suyama, Masahiko Nakamura, and Toshiyuki Ochiai: Utilization of a Lambda (Λ)-Shaped Transistor for a Hardware Neuron Model 36
Hirofumi Kawashima: Vibration Analysis of Flexural-Torsional Mode Tuning Fork-Type Resonators 45
Susumu Kitamori: Masking by Tone Bursts of Changing Frequency 55

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Satoru Sugimoto, Masayuki Kawabata, and Shogo Kozaki: Electromagnetic Scattering by Perfectly Conducting Polygonal Cylinders 64
Akira Sugiura, Tetsuo Oguchi, and Hirojiro Nagatomo: Responses of Radio Interference Measuring Apparatus Employing an Envelope Quasi-Peak Detector 73
Masafumi Hagiwara and Masao Nakagawa: Range-Extended Tangent-Type FM Demodulator Using Digital Signal Processing 83
Masafumi Hagiwara and Masao Nakagawa: SIN Type FM Demodulator Using Digital Signal Processing 93
Minoru Akiyama, Yoshiaki Tanaka, and Norihiro Suzuki: Constitution of Wide Area Telephone Network Using Optical Fiber Communication 102
Yuji Sakamoto, Yukinobu Takahashi, Yoshihiro Iijima, and Yoshinao Aoki: An Under-Snow Radar Using Multifrequency Holography 111
Shigeru Takeda and Masaharu Kawashima: Temperature-Stabilization of Lumped-Element Circulator in VHF Region 119

NUMBER 8

Page

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Hiroshi Nagaoka, Yoshimi Monden and Suguru Arimoto: An Approach to the Continuous-Time Stability Criterion of Polynomial Matrices via Orthogonal Polynomial Matrices 1
Mitsuo Okine: A Synthesis of High-Order Active R Filter 10
Masaru Sakurai and Junzo Murakami: Analysis of Tap Weight Variance in FIA Adaptive Algorithms 18
Kiyomichi Araki: Sampling and Recovery Formula in Finite Hankel Transform Based on the Minimum Norm Principle 28
Ryuzo Takiyama: The Geometrization of the Discriminal Process Model and the Psychophysical Functions 37
Akira Takagi, Norinobu Yoshida and Ichiro Fukai: Unified Analysis of Sound Field Involving the Driving System in Time Domain 47
Etsuro Hayahara, Takao Suzuki and Seijiro Kadowaki: Synthesis of Single-Amplifier Switched Capacitor Filters 59

PART B

Switching Ssytems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Tsuyoshi Fuji, Masashi Sato, Masao Kasahara and Toshihiko Namekawa: Construction and Analysis of Frame Synchronization Systems Taking into Account the Channel State . . . 66
Kazuhito Matsumura, Toshikazu Ueda and Yoshiro Tomabechi: An Analysis of Electromagnetic Near Field around a Truncated End of Dielectric Waveguide with Rectangular Cross Section 75
Mitsuo Hoshiyama, Akira Nishitsuji, Jun Awaka and Yoji Furuhama: An Analysis of Propagation Characteristics at 34.5 and 11.5 GHz between ETS-II Satellite and Kashima Station—On the Approximate Expression 85
Masanori Koshiba, Kazuya Hayata and Michio Suzuki: Finite-Element Analysis of Anisotropic Waveguides with Tensor Permittivity 93
Takahiro Saitoh, Hideya Takeo, Hiroshi Harashima and Hiroshi Miyakawa: Gain/Shape Vector Quantizer for Multidimensional Spherically Symmetric Random Source 102
Norikatsu Yamauchi: High-Order Bragg Diffraction by Dielectric Gratings 112

NUMBER 9

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Junji Suzuki and Masahiro Taka: 64-kb/s Wideband Speech Coding Algorithm Based on Band-splitting and Adaptive Prediction 1
Yoshio Yamada and Saburo Tazaki: Successive Approximation Vector Quantization 11
Kiyotaka Yamamura and Kazuo Horiuchi: Steady-State Analysis of Nonlinear Oscillatory Circuits by Iterative Decomposition Method 20
Kunikatsu Kobayashi, Nobuaki Suzuki, Yoshiaki Nemoto and Risaburo Sato: A Consideration for Measure of Information Based on the Dempster-Shafer Theory 30
Hideaki Seki and Shinsaku Mori: A/D and D/A Converters Using a Switched Capacitor Amplifier 39
Hirosuke Yamamoto: Secret Sharing System Using (k, L, n) Threshold Scheme 46

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Koichi Sano and Ryuichi Watanabe: A Minimum Channel Spacing of Optical Wavelength-Division-Multiplexing Transmission for Subscriber Loop Systems 55

Page

Naoki Inagaki: Broadband Power Inversion Adaptive Array 65
Masami Kihara, Tohru Takama and Masatochi Makino: Clock Path Phase Errors 74
Juhro Takase: A Method for Overload Handling in Synchronized Multiplex System 83
Yoshihiro Hayashi, Youhou Miyawaki and Mamoru Aiki: Remote Control Signal for Submarine Optical Repeater Fault Location Systems 93
Kunihiko Okamoto: Outer Conductor Shields and Electromagnetic Fields Around Delay-Type Inductive Communication Cables 100
Tokuo Miyamoto and Kamenosuke Yasuura: Accurate Numerical Analysis of an Elliptically Cored Optical Fiber for Polarization Preservation, using Mode-Matching Method . . . 111

NUMBER 10

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Hitoshi Honma, Kouichi Itoh and Masahiko Sagawa: A Computing Method for Obtaining Derivatives of Denominator and Numerator of Network Functions with Respect to Elements and Sensitivity Analysis 1
Naoki Matsumoto: Properties of the Second-Order Digital Bandpass Functions Obtained by Bilinear Transformation 11
Kenji Murakami and Tsunehiro Aibara: Improvement of Noise Attenuation of Autoassociative Memory Using Two-Stepped Association Procedure 20
Hirofumi Kawashima: Variational Analysis of GT-Cut Quartz Crystal Resonators with the Supporting Portions at the Ends 29
Sadao Maekawa, Takao Hinamoto and Yoshinari Nakamura: Approximation of Multivariable Linear Systems by Lower-Order Models 39
Tadashi Kitamura, Satoshi Imai, Chieko Furuichi and Takao Kobayashi: Speech Analysis-Synthesis System and Quality of Synthesized Speech Using Mel-Cepstrum 47
Yoshihiko Suzuki and Yasushi Inoue: A Charge Simulation Method with Boundary Shape Taken into Account 55

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Shimmi Hattori, Shunji Abe and Shoichi Noguchi: Traffic Analysis of Mail-Box Storage File in Voice Message Switching System 66
Jinkang Zhu, Tamiya Nomura and Takahiro Yamada: Performance of Spread Spectrum Synchronous Access Communication System by Orthogonal Sequences 75
Hiroshi Saito and Takeo Abe: A Traffic Forecasting Method Taking Account of Outliers 85
Akira Toda and Mitsuru Imai: Selection Method for Both-Way Circuit Groups between Multiunit Offices 93
Shinjiro Tashiro and Fumiaki Okada: Dynamic Measurement of Temperature Dependence of Complex Permittivities at Microwave Frequency 102
Shigefumi Tou and Takehiko Tsukiji: Yagi-Uda Array Antenna Composed of Twin-Delta Loops 110
Shinji Ohta and Mikio Takahara: Comparison of Error Rate Computations on Optical Communication Systems 118

NUMBER 11

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Genya Kishi, Takuro Kida and Yutaka Fukuda: A Method of Time-Domain Approximation Using TBT Polynomials as the Denominator of the Transfer Function 1

Page

Eisuke Kinoshita, Hideo Kosako and Yoshiaki Kojima: Automatic Rounding Error Estimation and Its Applications. Solution of Linear Equations, Newton's and McAuley's Methods 11
Toshiaki Watanabe, Takaki Kuri, Iwata Sakagami and Kozo Hatori: On the Synthesis of Constant-Resistance Distributed-Coupled-Line Networks by Stationary Responses of Periodic Impulse Train 21
Yoshitaka Morikawa, Hiroshi Hamada and Kazuyoshi Watabu: A Fast Computation Algorithm of the Two-Dimensional Cosine Transform Using Chebyshev Polynomial Transform 33
Masakazu Sengoku and Shoji Shinoda: A Function Measuring the Centrality (or Mediality) of an Edge in an Undirected Network with Edge Capacity 45
Atsushi Kawakami: Approximation of Characteristics of Networks Containing Several Kinds of Variable Elements 55

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Masaharu Tadauchi, Kiyohiko Tanno, Nagaharu Hamada and Kunio Sato: Image Signal Processing LSI for Facsimile 67
Toshikazu Hori and Nobuo Nakajima: Broadband Circularly Polarized Microstrip Array with Coplanar Feed 76
Akira Fukuda: Input Regulation Control Based on Periodical Monitoring Using Call Gapping Control 84
Hideki Asao, Makoto Matsunaga and Fumio Takeda: Magnetostriction Insensitive Dual-Mode Phase Shifter 94
Shoichi Koike, Norinobu Yoshida and Ichiro Fukai: Transient Analysis of Coupled Microstrip-Slot-Line in Three-Dimensional Space 101
Hideo Okinaka: Performance Characteristics of QPSK Signal Passing Nonlinear Channel in Digital Ship Earth Station System 110
Masashi Kuribayashi, Masamitsu Tokuda, Tokihiro Kawaguchi and Mitsugu Fujiwara: Degradation Process and Fluctuation Mechanism of Contact Resistance for Twisted Conductor Splice 120

NUMBER 12

PART A

Electromagnetic Theory, Acoustics, Circuit Theory, Communications Theory, Mathematics and Physics

Ryoko Futami and Nozomu Hoshimiya: A Neural Network Model for the Discrimination of Spatio-Temporal Patterns 1
Hidetoshi Yokko: An Improved Ziv-Lempel Coding Scheme for Universal Source Coding . . 12
Atsushi Imiya, Toshio Sasaki, and Hidemitsu Ogawa: Signal Smoothing by Summation—Generalized Fejer Method and Generalized Lanczos Method 21
Kaoru Kurosawa and Takayuki Hasebe: Consideration on a Nonlinear Multicommodity Flow Problem in a Packet Switching Network 29
Shu-ichi Adachi, Masahiro Ibaragi, and Akira Sano: Identification of Impulse Response by Use of Smooth Input Signals 36
Takashi Yahagi: Minimax Observer 45

PART B

Switching Systems, Video Communication, Microwaves and Millimeter Waves, Antennas and Propagation, Transmission Systems and Electronic Circuits

Sakae Nagaoka: A Method for Estimating Biases in the Measurement System of a Height Finding Radar 55
Yasutaka Shimizu, Atsuhiro Nishikata, and Shoichi Suzuki: Absorbing Rubber Sheet Mixed with Carbon for X-Band Marine Radar Frequencies 65

Page

Shigeo Nakajima, Tsutomu Sakai, and Hiraku Mishima: Offset Frequency Allocation to Reduce Intermodulation Noise 72
Seiichi Muroyama and Kazuhiko Sakakibara: Operating Frequency Range Reduction in a Series Resonant Converter 82
Kokusho Sha, Hiroyuki Kurashima, Toshiaki Shoji, and Michiya Suzuki: Characteristics of New Types of Quasi-Optical Diplexers 90
Kazunori Uchida, Toshiaki Matsunaga, and Takeaki Noda: Electromagnetic Wave Excitation in a Two-Dimensional Impedance Tunnel with a T-Junction 101
Katsuyuki Haishi and Kiyohiko Itoh: Proximity Feed Microstrip Antenna 110